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Editor's note: On October 2, 2002, Gordon Winston, respected as one of our country's most knowledgeable authorities in higher education finance, shared his thoughts in the form of testimony at a hearing before the U.S. House of Representatives Committee on Education and the Workforce. A summary of his testimony appears below.

At the most basic level, colleges and universities look a lot like ordinary businesses and higher education looks a lot like an ordinary industry. Colleges make a product (educational services) using purchased inputs (faculty labor, heating oil, buildings, etc.) and they sell the product to customers (students) for a price (tuition). As an industry, colleges compete hard for the students to whom they sell their product.

But, those comforting parallels with familiar businesses are only skin deep. There are very fundamental economic characteristics that keep comfortable analogies, economic theory, and economic intuition from working well for higher education. Both the PhDs with their economic theories, and the everyday individuals with their economic intuition and common sense, face the same problem—our experience has been with ordinary businesses and ordinary industries, making it hard to shift gears and understand an industry that is not at all ordinary. Indeed, the hardest part of it may be unlearning everything that makes so much sense so much of the time.

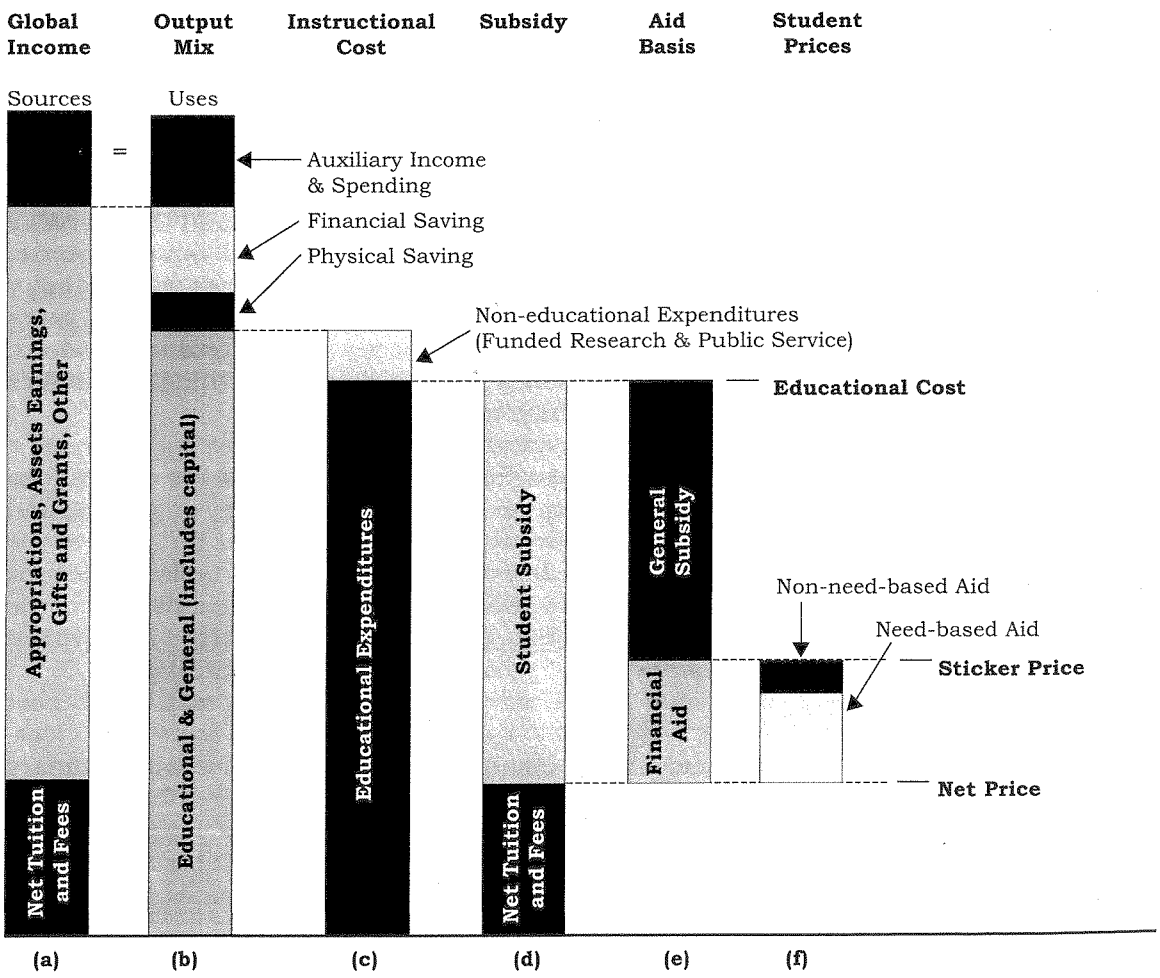
Figure 1 illustrates the financial difference between a college and a business firm. It shows the sources of revenues (resources) in the first bar (i.e., where the money originates) and the uses of those resources in the second bar (i.e., where the money goes). This is depicted per student for a typical college or university, based on 1995-96 U.S. averages from data from the National Center for Education Statistics Integrated Postsecondary Data System (IPEDS) Finance Survey.

Figure 1 and Table 1 demonstrate what may be the most important single fact in understanding college costs and prices, and the most fundamental economic difference with ordinary businesses: the price the student-customer pays for his or her education is strikingly less than the cost of its production. According to the data supporting Figure 1 (see Table 1), in 1995-96, it cost $12,400 a year to educate a student in the average American college . But, the typical student paid only $4,000, so each student received a subsidy of $8,400 a year, on average. It

is as if the Taurus that cost your Ford dealer $20,000 to put on the showroom floor were sold for less than $7,000 regularly and routinely. (And if you were poor or an exceptionally good driver, you might pay even less, as explained further below.) Clearly, no ordinary Ford dealer would survive.

But colleges do. That is because the student subsidy is paid for by "charitable contributions," broadly defined to include private and public donations to the college, past and present:

Figure 1
Global Income, Costs, Prices, Subsidies, & Aid per Full-time Equivalent Student



appropriations, gifts, returns on endowments, and other wealth. So the average student paid just 32 cents on the dollar for his or her education; in public sector schools, that price fell to 13 cents on the dollar. Perhaps it is a bit cute, but it may be useful to think of colleges and universities as "part church and part car dealer." They are charities, giving things away, and at the same time they are commercial firms, selling a product to their student-customers for a price: tuition. So, natural though it is to try, they cannot be understood simply as car dealers. Indeed, over all of US higher education, it appears that 75% of colleges' resources come to them in their charitable role and only 25% from commercial sales revenues.

A useful implication is that those charitable contributions break the ordinary link between price and cost found in an ordinary firm where price increases can usually be explained by cost increases. Indeed, according to elementary economics theory, "in a long run competitive equilibrium, price will come

TABLE 1
The Distribution of Average Cost, Price, and Student Subsidies
1995-96

	Subsidy per Student	Average Educational Cost per Student	Average Net Tuition per Student	Price/ Cost Ratio
All Colleges and Universities	$8,423	$12,413	$3,989	32%
Public	$8,590	$ 9,896	$1,305	13%
Private	$8,253	$14,986	$6,734	45%
Schools Ranked by Student Subsidies				
Decile 1	$20,991	$27,054	$6,063	22%
Decile 2	$11,865	$15,801	$3,936	25%
Decile 3	$10,009	$13,310	$3,301	25%
Decile 4	$ 8,752	$11,831	$3,080	26%
Decile 5	$ 7,855	$10,565	$2,710	26%
Decile 6	$ 7,020	$ 9,820	$2,799	29%
Decile 7	$ 6,250	$ 9,464	$3,214	34%
Decile 8	$ 5,447	$ 8,848	$3,401	38%
Decile 9	$ 4,262	$ 9,297	$5,035	54%
Decile 10	$ 1,736	$ 8,084	$6,348	79%

Source: Based on U.S. Department of Education IPEDS data. Includes 2,791 institutions, of which 1,411 are public and 1,380 are private. All dollar amounts are per FTE student averaged over institutions. See Winston, Gordon C. and Ivan C. Yen, "Costs, Prices, Subsidies, and Aid in U.S. Higher Education," Discussion Paper No. 32, Williams Project on the Economics of Higher Education, July, 1995, for details on the derivation of these data from the IPEDS Finance Survey. Medical schools are omitted here.

to equal unit cost." But in a college, where price (tuition) plus subsidy equals unit cost, it is clear that tuition might go up because costs go up; however, it can also go up because those charitable contributions go down. And that, of course, is what is happening in a lot of public higher education right now—states are cutting per-student appropriations, leaving public sector schools to choose between cutting their production costs (and quality), raising tuition, or doing a bit of both.

But that is not the end of the differences in pricing between businesses and colleges. In a college, there is a posted sticker price for a year of education—the tuition and fee charges the press covers when The College Board report, *Trends in College Prices*, comes out every fall. However, unlike a private firm, at a college, not everybody pays that sticker price. Indeed, estimates from the National Association of College and University Business Officers suggest that in the group of small private colleges they sampled, only 10 percent of the entering freshmen are "full pay" students; the rest get price discounts in the form of scholarships or financial aid. So it is important not to be misled, as members of the media so often are, into thinking that changes in sticker prices are changes in what people actually pay. In a recent study, Schwartz and Scafidi (Bureau of Labor Statistics, 2001) corrected the higher education component of the Consumer Price Index to recognize the net prices people actually pay. Using their corrections, the "rate of inflation" fell markedly.

The price discounts offerd by higher education institutions are often given for the most ordinary of business reasons—to make the product more attractive to reluctant customers.

Like price discounts offered by private firms, the price discounts offered by higher education institutions are often given for the most ordinary of business reasons: to make the product more attractive to reluctant customers (with the goal of filling seats or improving student quality). These discounts are generally known as merit aid or scholarships. However, a good portion of the price discounting provided by most colleges is in service of the ideal of "equality of opportunity," where financial aid is given to a qualified student who is not able to afford even a school's highly subsidized tuition, room, board, and fees. This is known as "need-based financial aid," which is a concept that is not at all compatible with business experience. It is as if the local Porsche dealer felt so strongly that every very good driver should have a high-performance car, that he priced his 911s so that even the most impoverished of the excellent drivers in the town could afford one.

A study performed recently of the prices actually paid by students at Williams College relative to their family incomes found that undergraduates who come from families in the

lowest national income quintile—less than $24,000 a year—pay on average just $1,683 for a year at Williams. (The sticker price was $32,470.) In this, Williams is typical of high-quality schools that use need-blind admission and give full-need aid, such as Princeton, Harvard, Swarthmore, Yale, Amherst, and Stanford.

Two Key Differences Between Higher Education and Industry

Two more key elements in the economics of higher education—and key differences with familiar firms and industries—are critical to a better understanding of college costs.

First, charitable donations to colleges and universities are very unevenly distributed. The wealthy schools are very much richer than the poor schools, and most of the 3,400 institutions in the United States are somewhere in between. Princeton or Williams are at the one end with, at Williams, more than $800,000 of wealth per student, so they can sell a $75,000 a year education for that sticker price of $32,470 (and an average price, net of financial aid, of $24,000). At the other end of the institutional spectrum, in the bottom quintile, are struggling little schools with little more wealth than their heavily mortgaged buildings. Such schools may charge $6,400 a year for an education that costs $8,100 to produce. Overall, a student in the average top decile school gets a yearly subsidy of $21,000, while one in a bottom decile gets $1,700 (the average Williams student, as implied by the numbers above, gets $51,000 in subsidy each year). Table 1 is useful in giving a sense of the national averages of costs, prices, and subsidies and how they are distributed between public and private sectors and among schools, ranked by the size of their student subsidies.

The message to take from the data is in the term "heterogeneity." It is misleading—and often causes bad policy decisions—to think of "higher education" or "colleges" as if all schools were the same, facing the same problems, incentives, and opportunities.

Second is the way colleges and universities make their product—the way they produce educational services. The difference is that students help educate students. In the jargon of basic economics, our customers supply an input (student quality) to our production (of educational services) that we cannot buy anywhere else. In the jargon of advanced economics, customer quality "creates an externality" in the production of education. There are "peer effects." In the last car example, it is as if the quality of the car you got from your Ford dealer depended on the quality of the other drivers who bought cars there—if they were very good drivers, your Ford would turn into a BMW.

So, schools that can afford to do so care very much about to whom they sell their product, i.e., the students they admit. They are not indifferent, as are most businesses, because good students help produce a good education and poor students do not. That means that a major focus of competition, especially between wealthy schools, is not for paying student/customers, per se—i.e., for sales. The focus of competition is for good students—i.e., for high quality inputs to their production.

Finally, but certainly not the least in significance, the discussion shifts from schools to protecting the equality of opportunity for students—especially low-income students. The low-income superstars attending wealthy schools are doing very well, as evident in the net tuition of $1,683 for the low-income undergraduate student described earlier. Need-blind admission with (full) need-based financial aid works.

But the worry is that the good-but-not-great low-income students, as well as the average students, are being lost. Competition for student quality with price discounts to the strongest undergraduates can simply use up available financial aid resources on the wealthy students who can be bought for less, and thus need smaller price discounts than the equally high-quality poor students. And, in respect to public policy, there has been an abandonment of poor students by the federal government in favor of middle-income students. This is not the focus of this testimony, but those who have looked at state merit-aid programs and federal tax credits for tuition and the decline of Federal Pell Grant as a fraction of college costs conclude that government tuition supplements are increasingly targeted at those who would go to college anyway, and colleges like Georgia's are using their increased enrollment pressure to improve their student quality. The low-income students—the focus of equality of opportunity—appear in danger of serious neglect.

Beyond Economics 101

In summary, economic intuition, common sense, or Economics 101 cannot be trusted when thinking about prices and costs in higher education. Higher education is a very odd industry, quite unlike what we are all familiar with. "Part church and part car dealer" can be a useful mantra and reminder. Key points to remember include—

- Prices (tuitions) cover roughly one-third of production costs. The rest comes from donations.

- Cost is only loosely related to price, so price changes cannot usually be explained by cost changes. They often can be explained better by changes in donations.

- There is a sharp hierarchy of schools, based largely on those donations and the resulting wealth. Making generalizations over all schools is quite likely to be wrong.

- Students educate students, so schools care about to whom they sell; much of the competition between schools, especially at the top of the hierarchy, is for student quality, not for sales.

- Low-income superstar students are doing very well at Princeton, Amherst, and Swarthmore, but other poor students are being abandoned by private price competition and by the shift of state and federal support to the middle class.

For those interested in further useful economic research on higher education, including much of what is reviewed above, the Williams Project on the Economics of Higher education has sixty-three research papers and studies available for download at www.Williams.edu/wpehe.

Reference

Schwartz, A., and Scafidi, B. (2001). Quality adjusted price indexes for four year colleges. (Bureau of Labor Statistics Working Paper 337). Washington, DC: Bureau of Labor Statistics.